

Please provide the following information, and submit to the NOAA DM Plan Repository.

Reference to Master DM Plan (if applicable)

As stated in Section IV, Requirement 1.3, DM Plans may be hierarchical. If this DM Plan inherits provisions from a higher-level DM Plan already submitted to the Repository, then this more-specific Plan only needs to provide information that differs from what was provided in the Master DM Plan.

URL of higher-level DM Plan (if any) as submitted to DM Plan Repository:

1. General Description of Data to be Managed**1.1. Name of the Data, data collection Project, or data-producing Program:**

Determining Watershed Management Efficacy in West Maui: Belt transect surveys of coral demography (adult and juvenile corals) from 2014 to 2015

1.2. Summary description of the data:

The focus of the Wahikuli-Honokowai Watershed Management Plan is the land use practices and alterations affected in the agricultural and urban districts that have upset the natural drainage patterns and ecohydrologic balance and services the watersheds provide. As the approach to reducing the effects of land-based sources of pollution, the Wahikuli-Honokowai Watershed Management Plan identifies nine priority projects to reduce, capture, and remediate the impacts of non-point source pollutants through the implementation of management practices in priority areas. The Watershed Management Plan also includes recommendations for strategic, long-term trend monitoring of the health of the coral reef ecosystem, which provides information that can be correlated to the implementation of solutions to reduce land-based non-point source pollutants.

Kahekili Beach Park reef and the coastal areas to the north are considered high priority. Corals in this region have been severely impacted by land-based pollutants, causing coral dieback and reducing coral cover. To fill in the gap, a baseline assessment for coral demographic metrics (described here) along with benthic cover has been conducted at the mouths of the Mahinahina, Honokowai, and Wahikuli, Kahana, Honokeana, Honokohua, and Honolua stream drainages in West Maui, Hawaii, to track and evaluate the efficacy of implemented management practices. The installation of permanent survey transects will provide long-term time series to quantify changes in the reef benthic community. Sediment flux, and turbidity data are also collected at the Mahinahina, Honokowai, and Wahikuli, drainages (described separately).

The data described here were collected via belt transect surveys of coral demography (adult and juvenile corals) by the NOAA Coral Reef Ecosystem Program (CREP) according to protocols established by the NOAA National Coral Reef Monitoring Program (NCRMP).

In 2014 data were collected at the Mahinahina, Honokowai, and Wahikuli watersheds; in 2015 data were collected at the Kahana, Honokeana, Honokohua, and Honolua

watersheds. These data include:

- 1) an assessment of coral colony density and size-class distribution for the selected monitoring sites;
- 2) an assessment of coral recruitment at the monitoring sites; and
- 3) an evaluation of coral colony mortality and evidence of sediment stress.

Data is available for surveys conducted in 2014 and 2015. These data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive, accession #0137092.

Additionally, line-point intercept and photoquadrat surveys of the benthos were conducted (described separately), and turbidity sensors, sediment traps, and sediment pods were deployed by project partners to provide information on sediment loads, sediment accumulation rates, and sediment composition. As watershed management projects are implemented, changes in sediment and nutrient loading and the resulting impacts on the reefs can be monitored over time.

1.3. Is this a one-time data collection, or an ongoing series of measurements?

One-time data collection

1.4. Actual or planned temporal coverage of the data:

2014-06-29 to 2014-07-03, 2014-10-30 to 2014-10-31, 2015-07-20 to 2015-07-31

1.5. Actual or planned geographic coverage of the data:

W: -156.692878, E: -156.63948046, N: 21.01574298, S: 20.908651

Mahinahina, Honokowai, Wahikuli, Kahana, Honokeana, Honokohua, and Honolulu watersheds, West Maui, Hawaii.

1.6. Type(s) of data:

(e.g., digital numeric data, imagery, photographs, video, audio, database, tabular data, etc.)
Table (digital)

1.7. Data collection method(s):

(e.g., satellite, airplane, unmanned aerial system, radar, weather station, moored buoy, research vessel, autonomous underwater vehicle, animal tagging, manual surveys, enforcement activities, numerical model, etc.)

Instrument: Not applicable

Platform: Not applicable

Physical Collection / Fishing Gear: Not applicable

1.8. If data are from a NOAA Observing System of Record, indicate name of system:

1.8.1. If data are from another observing system, please specify:

2. Point of Contact for this Data Management Plan (author or maintainer)**2.1. Name:**

Annette M DesRochers

2.2. Title:

Metadata Contact

2.3. Affiliation or facility:**2.4. E-mail address:**

annette.desrochers@noaa.gov

2.5. Phone number:

(808)725-5461

3. Responsible Party for Data Management

Program Managers, or their designee, shall be responsible for assuring the proper management of the data produced by their Program. Please indicate the responsible party below.

3.1. Name:

Bernardo Vargas-Angel

3.2. Title:

Data Steward

4. Resources

Programs must identify resources within their own budget for managing the data they produce.

4.1. Have resources for management of these data been identified?

Yes

4.2. Approximate percentage of the budget for these data devoted to data management (specify percentage or "unknown"):

Unknown

5. Data Lineage and Quality

NOAA has issued Information Quality Guidelines for ensuring and maximizing the quality, objectivity, utility, and integrity of information which it disseminates.

5.1. Processing workflow of the data from collection or acquisition to making it publicly accessible

(describe or provide URL of description):

Lineage Statement:

The data described here were collected via belt transect surveys of coral demography (adult and juvenile corals) by the NOAA Coral Reef Ecosystem Program (CREP) following a slightly modified protocol to that established by the NOAA National Coral Reef Monitoring Program (NCRMP).

Process Steps:

- Adjacent to each of the main watershed drainages (i.e., Wahikuli, Honokowai, and Mahinahina in the south; and Kahana, Honokeana, Honokohua, and Honolulu to the north), two permanent, long-term benthic monitoring stations were established (except for Honokohua; only one station established); shallow (0-6 meter) and/or mid-depth (6-15 meter). Within each monitoring station two-to-three replicate survey sites were established; replicate survey sites were several meters apart, given that West Maui coral reef track exhibits a fingerlike-reticulate geomorphology. Within each replicate site, surveys were conducted along one, 10 square meter belt transect, 18 meters in length. Adult coral colonies (greater than or equal to 5 centimeters) were surveyed within four (1.0 x 2.5 meter) segments at 5 meter increments along the 18 meter transect in the following manner: 0-2.5 meters (segment 1); 5.0-7.5 meters (segment 3); 10-12.5 meters (segment 5); and 15-17.5 meters (segment 7). All colonies whose center fell within 0.5 meters on either side of each transect line were identified to the lowest taxonomic level possible (species or genus), measured for size (maximum diameter to nearest centimeter), and morphology was noted. In addition, partial mortality and condition of each colony was assessed. Partial mortality was estimated as percent of the colony in terms of old dead and recent dead and the cause of recent mortality was identified if possible. The condition of each colony including disease (not attributed to recent tissue loss) and bleaching was noted along with the extent (percent of colony affected) and level of severity (range from moderate to acute). Within the same four segments per transect as the adult coral surveys, crustose coralline algae (CCA) diseases and Alcyonarian disease are surveyed. In each segment, each occurrence of a specific disease is identified and the lesion is measured (maximum diameter). In addition to the adult coral surveys, CCA diseases, and Alcyonarian disease, the presence of other Anthozoans (other cnidarians including Alcyonareans, Zoantharians, coralliomorphs and Antipatharians) are also noted. Juvenile coral colonies (less than 5 centimeters) were surveyed within three (1.0 x 1.0 meter) segments along the same transects: 0-1.0 meter (segment 1); 5.0-6.0 meters (segment 3); and 10.0-11.0 meters (segment 5). Juvenile colonies were distinguished in the field by a distinct tissue and skeletal boundary (not a fragment of a larger colony). Each juvenile colony was identified to the lowest taxonomic level (genus or species) and measured for size by recording both the maximum and perpendicular diameter to the nearest 2 millimeter. (Citation: NOAA Coral Reef Ecosystem Program (CREP) Benthic Survey Standard Operating Procedures - draft document available upon request from the data steward)

5.1.1. If data at different stages of the workflow, or products derived from these data, are subject to a separate data management plan, provide reference to other plan:

5.2. Quality control procedures employed (describe or provide URL of description):

The quality control occurred at two major stages - 1) data entry and 2) data

management. Data entry quality control included both review and manual error correction steps. Data management quality control included several standard error queries followed by correction prior to ingestion into Oracle database.

6. Data Documentation

The EDMC Data Documentation Procedural Directive requires that NOAA data be well documented, specifies the use of ISO 19115 and related standards for documentation of new data, and provides links to resources and tools for metadata creation and validation.

6.1. Does metadata comply with EDMC Data Documentation directive?

Yes

6.1.1. If metadata are non-existent or non-compliant, please explain:

6.2. Name of organization or facility providing metadata hosting:

NMFS Office of Science and Technology

6.2.1. If service is needed for metadata hosting, please indicate:

6.3. URL of metadata folder or data catalog, if known:

<https://www.fisheries.noaa.gov/inport/item/25326>

6.4. Process for producing and maintaining metadata

(describe or provide URL of description):

Metadata produced and maintained in accordance with the NOAA Data Documentation Procedural Directive: https://nosc.noaa.gov/EDMC/DAARWG/docs/EDMC_PD-Data_Documentation_v1.pdf

7. Data Access

NAO 212-15 states that access to environmental data may only be restricted when distribution is explicitly limited by law, regulation, policy (such as those applicable to personally identifiable information or protected critical infrastructure information or proprietary trade information) or by security requirements. The EDMC Data Access Procedural Directive contains specific guidance, recommends the use of open-standard, interoperable, non-proprietary web services, provides information about resources and tools to enable data access, and includes a Waiver to be submitted to justify any approach other than full, unrestricted public access.

7.1. Do these data comply with the Data Access directive?

Yes

7.1.1. If the data are not to be made available to the public at all, or with limitations, has a Waiver (Appendix A of Data Access directive) been filed?

7.1.2. If there are limitations to public data access, describe how data are protected from unauthorized access or disclosure:

7.2. Name of organization of facility providing data access:

National Centers for Environmental Information - Silver Spring, Maryland (NCEI-MD)

7.2.1. If data hosting service is needed, please indicate:**7.2.2. URL of data access service, if known:**

<http://accession.nodc.noaa.gov/0137092>

<http://accession.nodc.noaa.gov/0137092>

7.3. Data access methods or services offered:

Data can be accessed online via the NOAA National Centers for Environmental Information (NCEI) Ocean Archive, accession #0137092.

7.4. Approximate delay between data collection and dissemination:

Unknown

7.4.1. If delay is longer than latency of automated processing, indicate under what authority data access is delayed:**8. Data Preservation and Protection**

The NOAA Procedure for Scientific Records Appraisal and Archive Approval describes how to identify, appraise and decide what scientific records are to be preserved in a NOAA archive.

8.1. Actual or planned long-term data archive location:

(Specify NCEI-MD, NCEI-CO, NCEI-NC, NCEI-MS, World Data Center (WDC) facility, Other, To Be Determined, Unable to Archive, or No Archiving Intended)

NCEI_MD

8.1.1. If World Data Center or Other, specify:**8.1.2. If To Be Determined, Unable to Archive or No Archiving Intended, explain:****8.2. Data storage facility prior to being sent to an archive facility (if any):**

Pacific Islands Fisheries Science Center - Honolulu, HI

8.3. Approximate delay between data collection and submission to an archive facility:

Unknown

8.4. How will the data be protected from accidental or malicious modification or deletion prior to receipt by the archive?

Discuss data back-up, disaster recovery/contingency planning, and off-site data storage relevant to the data collection

NOAA IRC and NOAA Fisheries ITS resources and assets.

9. Additional Line Office or Staff Office Questions

Line and Staff Offices may extend this template by inserting additional questions in this section.